Scales in nineteen rows, smooth. Ventrals 261. Anal bifid; the twenty-three anterior subcaudals are simple, and followed by about eighty paired ones.

Upper parts reddish brown, irregularly mottled with darker. Lower parts yellowish, finely mottled with blackish.

The single specimen is 31 inches long, of which the tail takes 7 inches.

XXVII.—*Notes on the Lepidoptera of St. Helena, with Descriptions of new Species.* By Mrs. T. Vernon Wollaston.

Although it is generally admitted that islands are, without doubt, for the most part, more unproductive (even in proportion) than continents, and that the smaller the area the less favourable will it be for the development of insect life, yet, perhaps, this very fact imparts to these restricted faunas a greater degree of interest than they would otherwise possess. Especially is this the case in St. Helena (more so even than in the other Atlantic islands which have been most carefully searched), not only from the fact of its greater remoteness from other land, which attaches to it an importance which the student of zoological geography cannot fail at once to recognize, but likewise on account of its botany, which resembles no other in the peculiarity of its indigenous vegetation. And as there appear to be few facts in entomology more extensively true than that the most peculiar insects of a region are usually found either to be dependent on or to inhabit the same area as its most peculiar plants, it may therefore, perhaps, be as well, before describing the Lepidoptera, just to take a brief glance at the general features of the flora of St. Helena. When first discovered, it is stated that the island was entirely covered with forests, the trees drooping over the tremendous precipices that overhang the sea. Now, however, it is sadly altered, and, with very few exceptions, it is only the loftiest and well-nigh inaccessible summits of the great central ridge that still retain the remains of the aboriginal vegetation. Near to the coast the rough lava is quite bare, and presents a most forbidding aspect to the stranger as he approaches it from the sea; nor will he, if a naturalist, be much more satisfied as he rides into the interior through districts of the most unmistakably introduced vegetation. Supposing it to be in the summer time, the stranger will probably be struck (as we were) by the picturesque groups of "hay-

makers" as they idly collect the fresh-cut grass from the precipitous slopes at the commencement of the deep ravines. Yet he may, perhaps, be tempted to feel that he might, after all, almost as well (except for the mere fact that it is summer at the time of year which he is accustomed, in more northern latitudes, to regard as mid-winter) be in the British Isles for what he sees in the surrounding country to indicate a tropical or even a distinctive fauna. But only let him scramble on for less than a mile, and he will be surprised at the complete change which presents itself. At least, daily as we returned to the crest of the great central ridge, we never failed to be astonished and delighted at the sudden transition from English broom, brambles, willows, Scotch pines, and gorse bushes, Cape-of-Good-Hope bushes, Australian trees, American weeds, and the somewhat choicer importations peeping from the various gardens and more highly cultivated spots, to the mass of native vegetation which still clothes the loftiest peaks. However, so small is the area that has been left in a state of nature that hardly more now remains than sufficient to give a tantalizing glimpse of what the island must have been like before the struggle for existence began between the imported * and natural vegetation: amongst the latter the arborescent Compositæ, tree ferns, and two or three distinct species of Wahlenbergias are the most conspicuous.

Therefore, considering the extreme isolation of St. Helena, the smallness of its area†, and the deteriorated nature of the country, the following is, I imagine, as good a list as could be expected. Out of the ninety-four species that we met

* The manifest deterioration of St. Helena during the last three hundred years is much to be deplored. The first step towards producing this alteration (fully five sixths of the island, which was once well-wooded, being now utterly sterile) was undoubtedly due to the introduction of goats. These multiplied so rapidly that they soon existed in thousands, and well-nigh destroyed all vegetation by their continuous nibbling at every fresh shoot or seedling that appeared; and as, at the same time, the trees were permitted by the inhabitants to be "chopped down ruthlessly for fuel, into a chaos of scoriæ," it did not take long to bring about this undesirable result. However, even this is not all that the aboriginal vegetation has had to contend with; for the same Governor who at last took the strongest measures to exterminate the goats (or, at any rate, compelled them to be kept within bounds) for the sake of protecting the native plants, counteracted his measures, for the latter purpose, himself, to a great degree, by promoting the introduction, on a large scale, of exotic plants from all parts of the world, which have since propagated themselves with such rapidity, and grown with such vigour, that the *native* plants cannot compete with them, and are therefore gradually diminishing year by year.

† St. Helena is not calculated to be more than ten miles long by seven broad.

with during our six months' residence in the island there seems no reason to doubt that considerably more than half are truly indigenous. The remainder are, for the most part, insects of a very wide geographical range, and have, I believe, nearly all been recorded from Africa; whilst, notwithstanding that the island is a thousand miles nearer to America than is any part of the African coast, it contains scarcely any species that are characteristic of America.

Order LEPIDOPTERA.

Section I. Rhopalocera.

Fam. I. Nymphalidæ.

Genus 1. Danais, Latr.

Danais chrysippus, Linn.

This species appears to be a most widely distributed one, occurring in Greece, Asia Minor, Persia, and the Canary Islands, as well as in South Africa and the Mauritius. Indeed many localities even in South America are quoted as having produced it, viz. Guiana, Surinam, and Cayenne; and I believe that it has been met with also in Trinidad. In the north-western provinces of India it is said to be well-nigh universal; and it is called by Captain H. L. De la Chaumette one of the "commonest insects of India."

At St. Helena *D. chrysippus* is very abundant, especially in arid places more or less characterized by plants of the *Asclepias*, on which in the larva-state it subsists. It is at intermediate and rather low elevations that it more particularly abounds, seldom ascending higher than 1800 or 2000 feet above the sea. The greater number of my specimens I captured at Cleugh's Plain; and I also met with it commonly at Plantation. It is easily caught, especially late in the afternoon, when it may be taken in the hand off the *Asclepias* bushes.

The caterpillar of this *Danais* is rather more than an inch and a half in length, and of a delicate French grey, each segment being ornamented with five black transverse lines, the second and third ones of which are somewhat broader and enclose two large yellow transverse patches. There is a yellow spiracle-line very much interrupted, the skin being puckered, and the spiracles themselves scarcely visible. The head has three broad, transverse, arched, black lines, the anterior one of which encloses a yellow space, bordered in

front by a straight basal line. The third, sixth, and last segments are each furnished with a pair of conspicuous dark retractile horns, the anterior pair of which are almost twice the length of the others. When fully fed it suspends itself by its tail, and turns into an obtuse semitransparent chrysalis, beautifully marked with small golden spots, placed elliptically round the head, and with a black, raised, semicircular line near the tail, the posterior edge of which is of a brilliant gold; there is also a minute golden spot about the position of the centre of the enclosed wings. These golden markings, however, disappear, by the absorption of the fluids, as the enclosed insect approaches maturity.

Genus 2. Hypolimnas, Hübn.

Hypolimnas bolina, Linn.

The female of this species might well be mistaken for *Danais chrysippus*, it being at first sight so exceedingly like that insect; but the different veining of the wings and the absence of the articulations of the fore tarsi are in themselves sufficient to show, upon closer examination, that it belongs, in reality, to what many authors regard as a distinct subfamily of the Nymphalidæ.

This handsome butterfly is not uncommon in various parts of the island, both at low and intermediate altitudes. My specimens I captured chiefly at Plantation, flying over the flowers of the *Acacia longifolia*, Willd. (known as the "Port-Jackson Willow"), on the grassy slopes behind the house; but I do not recollect seeing it at a higher level. Unfortunately I did not succeed in detecting either the larva or pupa of *H. bolina*. It appears to be tolerably abundant in many districts of North-western India, where the caterpillar is said to be reared on the *Portulaca oleracea*; and, according to Captain H. L. De la Chaumette, it is very common, throughout nearly the whole year, at Saugor. Mr. R. Trimen, in his "Notes on the Butterflies of the Mauritius," whence he records this species, remarks that "it is very interesting to observe how this insect, the female of which so precisely imitates the *Danais chrysippus*, almost rivals its model in geographical range, though it does not appear as yet to have extended into Southern Europe. Its occurrence in parts of the New World, where the *chrysippus* is unknown, seems to be regarded by many Lepidopterists as accidental—among others, by Mr. Bates (Proc. Zool. Soc., Nov. 1863), whose laborious researches for eleven years in South America give great weight to his opinion." It is found also in the Island

of Ascension, where it was met with (in 1860) by the late Mr. Bewicke.

Genus 3. Pyrameis, Hübn.

Pyrameis cardui, Linn.

This well-known and almost cosmopolitan butterfly is quite abundant in the island, and is to be met with equally from the level of the sea to the summit of the highest ridge; but perhaps it abounds most in the intermediate districts, at which elevation the flowers of a large yellow everlasting are frequently quite covered with it. At Woodcot, too, it seems very plentiful; and most of my specimens I reared from some caterpillars which were brought to me from there by Miss C. Whitehead.

P. cardui occurs in the Canarian, Madeiran, and Azorean groups; but the St.-Helena examples are decidedly more highly coloured than a series of Madeiran ones which are now before me.

Fam. II. Lycænidæ.

Genus 4. Cupido, Schrank.

Cupido bæticus, Linn.

Judging from what one ordinarily observes in butterflies, the sexes of the present species seem, as it were, to have exchanged places with each other; for whereas the males are, in most instances, more particularly adorned with the richest tints, I find, after a very careful investigation, that in *Cupido bæticus* it is the females which retain the brightest colour.

This very pretty species is certainly the most abundant of the few Diurnal Lepidoptera which have, as yet, been found at St. Helena; and it is one which occurs more especially at a rather high altitude. At West Lodge it absolutely swarms; I have observed the flowers of the common blackberry literally covered with it. At Plantation I captured two or three of the males less than a third of the size of the ordinary ones; but they do not appear to possess any other peculiarity. *C. bæticus* has a very wide geographical range; and it is found also in the Madeiran and Canarian groups, in both of which, though especially the former, it is well-nigh universal. Although common in many parts of the continent of Europe, in England it is of the greatest rarity, having been taken merely once or twice on the southern coast. The larva,

which seems to have a great partiality for the common garden pea, is of a green hue, short as well as very thick, and somewhat fusiform in outline, much resembling in shape the common woodlouse. However, we never succeeded in obtaining many of the caterpillars, though in Madeira we have often met with it.

The section Rhopalocera is very poorly represented at St. Helena, only four species having as yet been brought to light, whilst not one of even these can be looked upon as possessing the slightest claim to being indigenous. Indeed they happen all of them to possess an extremely wide geographical range; and it is interesting to know that the whole four occur in Africa. *Pyrameis cardui* may well-nigh be said to be *the* butterfly, *par excellence*, of *all* countries; and even *Danais chrysippus* goes far to emulate it in its roving propensities. Where the latter is found, too, it is, in *most* cases, accompanied by its mimic, *Hypolimnas bolina*, though, at the same time, I believe it to be true that *H. bolina* has been discovered in some parts of America where *D. chrysippus* has not yet been detected. Neither has *H. bolina* established itself as a European insect; but that may, in reality, be due to the mere fact of its requiring a higher temperature for its development. *Cupido bæticus* too has a very wide acquired range, and is remarkable for the little variation of its markings in whatever clime it happens to be found.

It is somewhat strange, perhaps, that with so peculiar and wonderful a flora the little island should not produce a single butterfly which can be considered, in the least degree, aboriginal, more especially when we take into account the large number of new and curious forms which are indicated in the Heterocera, and which will speak for themselves further on. But, whatever be the case with the moths, it is certainly very surprising, considering the many facilities that must assuredly have arisen, from time to time, when this small oceanic rock was the recipient of such vast accumulations of plants from all parts of the world, and was in such constant use as a place of call under the old East-India Company's rule, that more exponents of the Rhopalocera should not have been accidentally introduced; for one would be apt to imagine that the self-same circumstances which favoured the transportation of these four would hold good for many other species. I believe, however, that this is very much in accordance with what may be observed in the generality of islands which are unusually remote.

Section II. Heterocera.

Fam. I. Sphingidæ.

Genus 1. Acherontia, Ochs.

Acherontia atropos, Linn.

This gigantic hawk-moth is now abundant at St. Helena, the caterpillars being especially plentiful at intermediate elevations. The latter feed on, amongst other plants, the *Brugmansia suaveolens*, Willd. (the great white "Datura"), though their principal and most favourite food-plant appears to be the prickly *Solanum Jacquini*, Willd. (known on the island as the "Wild Bringas"), to which plant they are exceedingly destructive. Neither is the peculiar dark variety of the larva at all uncommon. Mr. Melliss records a curious fact about this moth—namely, that it first occurred on the island in the year 1835, and was afterwards very plentiful until 1854, when it disappeared simultaneously with the honey-bee (to which, as is the case with it in England, he says that it was a troublesome enemy). A few years ago, however, the honey-bee was reintroduced into St. Helena; and *atropos* has again made its appearance, seemingly more abundant than ever. I have had as many as twenty caterpillars brought to me in the course of a single afternoon.

Genus 2. Sphinx, Ochs.

Sphinx convolvuli, Linn.

The only evidence which I possess for the occurrence of this *Sphinx* in St. Helena consists in a chrysalis which was brought to me from a cultivated piece of ground at "Fairy Land," on the eastern side of (but a little below) the great central ridge; but the characters of the chrysalis are so unmistakable as pertaining to *S. convolvuli*, that I have no hesitation whatever in adding the species to the fauna.

Genus 3. Deilephila, Ochs.

Deilephila celerio, Linn.

This exceedingly quick-flying *Deilephila*, which possesses so wide a geographical range, is, at some seasons of the year, most abundant at St. Helena. We were told that often it was quite difficult to carry, without inconvenience, even baskets of flowers (especially when containing the sweet-scented Gardenias), on account of the aggressive manner in which these moths would follow and dart around the baskets,

sufficient almost, in the dusk of the evening, to startle one. We were too late, however, in the season to see them in any great numbers, and at first I only met with a few examples (most of which were dead and enveloped in cobwebs behind the window-shutters of the house) at Plantation; but before leaving the island we managed to rear some remarkably perfect ones, from larvæ which had been sent to us by Mr. N. Janisch, from the Botanic Gardens in Jamestown.

The caterpillar of this species is of a dirty yellowish flesh-colour, and, when fully extended, about two inches and a half in length. From the fifth segment (which is the largest) to the head it gradually tapers; and it has a yellow band on either side, which likewise tapers to the head; the ground-colour also is darker on the second, third, fourth, and fifth segments. The head is of a pale greenish brown. The fifth segment is ornamented with a conspicuous eye-like spot (the centre of which is black, but having a few bluish dots), which is surrounded by a yellow ring. The sixth segment has a rather smaller, round, plain, yellow spot. There is a narrow black dorsal line throughout; and after the sixth segment the surface is ornamented with short black streaks (almost forming narrow longitudinal broken-up lines), which give the central space a reticulated appearance, which is interrupted by a black abbreviated transverse streak on either side of the fore part of the segments. There are some minute white dots sprinkled on each side of the spiracles; and the horn is small, straight, and almost black. This caterpillar, however, is in colour very variable, it being sometimes of a bright green throughout; and its principal food appears to consist of vine-leaves.

D. celerio is found in the island of Madeira, and also in the Mauritius and in Asia Minor.

Fam. II. Noctuidæ.

Genus 4. Agrotis, Ochsenh.

Agrotis obliviosa, Walk.

This species is so similar to the British *A. segetum* that I should have concluded it to be at the most but a geographical variety of the latter had not Mr. Walker identified it with *A. obliviosa*, which he first described in 1856 from, I believe, some African examples.

Agrotis pallidula.

Agrotis pallidula, Walk. in Melliss, St. Hel. 183 (1875).

The widely spread and numerously represented genus

Agrotis seems to have but two representatives in the island; indeed I myself only observed *one*, namely the *obliviosa*—a species which appears at Helena to take the place, as it were, of the common *A. segetum* of the British Isles, the former being in like manner a pest to certain of the crops. There is decidedly no group of Lepidoptera in the island which is so devastating; and yet although somewhat annoying to the farmers at stated seasons, it is by no means so destructive (in the larva condition) as members of the same family often are in other countries; for in the case of the latter one can scarcely realize what utter devastation they are capable of causing, small though they be.

Genus 5. Apamea, Ochsenh.

Apamea subvelata.

Apamea subvelata, Walk. in Melliss, St. Hel. 184 (1875).

I only met with a few examples of this *Apamea*—one of which recedes from the others in having the surface throughout of a darker tint, and in the orbicular stigma being represented by a very small, almost black, and somewhat X-shaped streak.

Mr. Moore informs me that it is near our English *A. unanimis*. However, this particular species seems peculiar to St. Helena, where it frequents the loftier heights, chiefly in the localities which are more particularly characterized by the "cabbage-tree" flora.

Genus 6. Perigea, Guén.

Perigea punctosa, Walk.

This species is not by any means uncommon in the island; however I did not meet with either the caterpillar or chrysalis of it. The moth seems fond of concealing itself beneath, or by the side of, stones which lie on the surface of the ground, and is very easily disturbed in the daytime. Most of my specimens were obtained at Plantation in the dusk of the evening. It may at all times be easily distinguished from any of the other St.-Helena Noctuids by its broader wings, as well as by its almost white orbicular stigma.

Genus 7. Prodenia, Guén.

Prodenia littoralis, Boisd.

This prettily variegated *Prodenia* abounds in St. Helena, especially at intermediate elevations. In the caterpillar-state

it is very destructive to the foliage of the geraniums; it feeds also upon bramble, French ivy, and many other garden plants. The caterpillar is nearly 2 inches in length when fully grown and extended, quite smooth, and rather stout; the head is small in comparison with its size; each segment (except the first and second) has a wedge-shaped velvety black blotch on either side, the outer margin of each blotch being bordered with a yellow line, which line on the third, fourth, and fifth segments assumes more the shape of a spot, those on the fifth segment being very minute. It varies, however, very much in its ground-colour, sometimes being of a very dark brown, and at others of a very much paler hue.

Genus 8. Leucania, Ochsenh.

Leucania punctosa, Treitschke.

This very ordinary-looking *Leucania* (which is found in the south of France, Sicily, and perhaps Spain) is rather abundant at St. Helena; and it may often be seen, in a drowned or partially drowned state, floating upon the surface of the water which has been collected in the little tubs or tanks which are so universal throughout the island. The majority of my specimens, however, I captured at Plantation, flying over the geraniums and other garden plants in the dusk of the evening.

Duponchel, in his 'Catalogue des Lépidoptères d'Europe,' includes under this species (*punctosa*) *Boisduvalii*, Dup., and also *putrescens*, Hübn., which he seems to regard as a mere variety. The figure, however, of *Boisduvalii* in Godart's 'Papillons de France,' pl. cv. f. 6, does not altogether correspond with the specimens from St. Helena. The surface of Godart's figure seems to me to be of a much more uniform and darker hue throughout; and it shows a postmedian transverse curved row of black dots, which are entirely wanting in my types. The figure of *Leucania putrescens* in the 'Entomologist's Annual' for 1862, pl. ii., is quite unlike my St.-Helena specimens, though the woodcut of *putrescens* in Newman's 'Natural History of British Moths' is exactly similar to *L. punctosa*.

Leucania extranea, Guén.

Although I did not meet with this *Leucania* during our residence at St. Helena, nevertheless, since its occurrence is recorded by Mr. Melliss, I think it ought not to be omitted from our present catalogue. I cannot, however, but feel it open to consideration whether the male of the preceding species

may not have been inadvertently identified by Mr. Walker with *L. extranea*. Nevertheless the two are in reality altogether distinct, *extranea* receding from *punctosa* in being of a more ochreous and *rosy* tint, as well as of a less harsh, or *softer*-looking, substance throughout, and in being free from a longitudinal darkened space or streak along the discoidal region. Moreover, whereas in *L. extranea* the stigmata are just discernible, in *punctosa*, on the other hand, they are altogether absent.

L. extranea is an insect of a very wide acquired geographical range, occurring in many parts of the world, though it has usually been looked upon as more particularly American. In Madeira it is one of the most universal of the Noctuas, being found (especially in cultivated grounds) from the sea-level to an elevation of at least 3000 feet; and it is said in Mr. Godman's work to be found at San Miguel, in the Azores. In England it has been met with on one or two occasions only, on the southern coast; so that the species is very likely a mere naturalized one as British, or, more probably still, only accidentally imported. Guénée states that it is very common, and he cites as localities for it North America, Columbia, Brazil, the East Indies, Java, and New Holland. It has also been met with in New Zealand.

Genus 9. Caradrina, Ochsenh.

Caradrina indicata.

According to my experience this moth seems to be confined to the intermediate districts; but it is clearly nowhere very abundant. So far as I can recollect, I captured all my specimens at Plantation, flying over the flowers in the dusk of the evening; but I did not meet with either the caterpillar or the chrysalis.

Genus 10. Cosmophila, Boisd.

Cosmophila indica, Guén.

So far as my own observations are concerned, this extremely pretty Noctua is somewhat rare in St. Helena; for a single example is all that I could secure of it. Possibly, however, this may be partly due to the fact of our sojourn in the island not having been at the proper season of the year. The specimen alluded to I captured at Plantation, beaten out of a bank below some fir trees during the daytime; but although we visited the same spot repeatedly during the remainder of our stay, we never succeeded in meeting with a second. It has been recorded from Africa, Asia, and Australia.

Cosmophila xanthindyma, Boisd.

This appears to be a somewhat scarce moth at St. Helena. Indeed, we were not fortunate enough to meet with any examples of it during our visit, and only a single specimen has, I believe, been ever recorded for the island.

Genus 11. Habrostola, Ochsenh.

Habrostola commidendri, E. Woll.

Expanse 1 inch 4 lines to 1 inch 8 lines. With the palpi not much compressed, and having the terminal joint distinct; antennæ simple in both sexes. The fore wings of a suffused dark cinereous hue, the central space being just appreciably darker (though much more appreciably so near the central streak) and bounded by two undulating pale lines. The orbicular and reniform stigmata are both apparent, the former being oblique and narrow. Parallel with the outer margin is a black narrow vandyked line which emits short streaks at the angles in opposite directions, *i. e.* two of them pointing internally, and then two externally, and so on. Hind wings smoky brown, gradually darker towards the outer margin. Thorax of much the same dappled hue as the anterior wings, and with a large posterior crest. Body almost concolorous with the hind wings, but with darker crests near the base.

This member of the Plusiidæ is altogether one of the most interesting of the St.-Helena Lepidoptera; and since its caterpillar seems to feed exclusively on the few remaining gumwoods (*Commidendron robustum*, D.C.) which are now to be met with, we may feel pretty sure that it is one of the surviving members of the aboriginal gumwood fauna. So far, therefore, as my own observations are concerned, I need scarcely say that it does not extend into the higher parts of the island (for the gumwood does not extend beyond a certain altitude), but is strictly a native of the "intermediate" districts.

It was at Plantation that we chiefly met with it, where we first observed a young gumwood to be literally defoliated by its larvæ; and other gumwoods near were likewise found, on inspection, to be more or less similarly affected. This at least gave us an excellent opportunity of watching the caterpillars, and of rearing a certain number, though I cannot but regret now that I did not secure more.

H. commidendri is very nearly allied to *H. transfixa*, Walk. (a species from Ceylon and Moreton Bay), of which, indeed, it might almost be regarded as merely a geogra-

phieal varicty. The fore wings, however, are a little less deeply scooped out along their hinder edge; and their silvery line is a little more transverse (or less vertical) in position, as well as not *quite* so straight (or a little more curved) towards its base or commencement.

The caterpillar, when full-grown and extended, is about an inch and a quarter in length, tapering slightly towards the head. It has but four ventral claspers, and arches its back when walking, after the manner of the Geometridæ. It is of a clear green, ornamented on either side of the dorsal region with irregular thread-like subconfluent undulating white lines, which are interrupted by minute white dots (each of which emits an erect dark bristle). The head is yellowish green, dotted sparingly with black; the spiracle-line is narrow and of a whitish yellow. When full-grown it spins a white silken cocoon, and changes into a chrysalis which at first is green, but which soon becomes dark brown. The imago emerges in about three weeks.

Genus 12. Plusia, Ochsenh.

Plusia aurifera, Hübn.

This beautiful *Plusia*, which abounds at Madeira, and which seems to have gained for itself a wide geographieal range, is extremely common, and ascends to the highest central ridge. At Plantation and the immediate vicinity it often swarms, darting over the flowers early in the evening and rather before dusk. Godart observes (in 1829), "Cette belle espèce dont les premiers états ne sont pas encore connus, se trouve en Espagne et en Portugal; elle habite aussi les îles de Ténériffe et de Sainte-Hélène." It has also been found in Java, as well as along the western coast of Afriea, and in Madagasear, Hindostan, and Ceylon.

The caterpillar of *P. aurifera* is very abundant, mainly on the foliage of the geraniums; but it is not easy to rear, unless each grub is kept in a separate box, on account of its grossly cannibal propensities. When fully extended it is about an inch and three quarters in length, cylindrieal, and of a pale dingy olivaceous brown. The segmental folds are distinctly marked; and there is a black narrow dorsal band bordered with yellow, on either side of which (extending close to the spiracles) are a succession of yellow disjointed thread-like lines. A broadish ochreous band (bordered with yellow) extends the whole length of the caterpillar on either side, within which the spiracles are placed, the middle spiracles being rounded. The second segment is black, but ornamented

with a number of dirty-white spots and patches. The tubercular spots are visible as horny warts; and the bristle which they each emit is strong and erect. When quite full-grown the fore part of each segment assumes a much darker colour, causing the whole hue to be more pronounced.

Plusia limberina, Guén.

This is certainly one of the most abundant Noctuas in the island, and it is one which is more particularly plentiful at intermediate altitudes. It often swarms at Plantation, frequenting much the same plants as its congener. In the caterpillar-state it is especially destructive to the geraniums and many other low-growing garden shrubs.

Plusia limberina occurs in Central and Southern Africa, and it has likewise been met with in Madagascar.

Plusia Dalei, E. Woll.

Expanse 1 inch 6 lines to 1 inch 8 lines. With the palpi slightly more compressed than in *P. limberina*, and having the wings fuller and more robust, with their outer margin scarcely sinuated. The fore wings of a rich mottled golden brown, and having a very similar silver mark on the disk to that of the preceding species; but the oblong silver spot is not generally confluent with the letter-like marking. There are three interrupted transverse lines, the first one of which is near the base and abbreviated posteriorly, the second midway between it and the silver marking, the third being beyond the reniform. Parallel with the outer margin is a cloudy space, more often broken up into two or three ill-defined blotches. Above the anal angle is usually a pale-coloured dash, which in rather worn specimens is very distinct, and gives a good deal of character, as it were, to the wings, causing the insect when flying to be readily distinguished from *P. limberina*. The orbicular stigma is not discernible; but the reniform one (which is obscured) is slightly outlined at its lower extremity with an interrupted silvery line. Hind wings smoky brown, but rather paler near the base. Thorax of a palish uneven brown, with a dark crest posteriorly. Body very pale ochreous-brown, and with two dark crests near the base.

This handsome *Plusia* is not uncommon in various parts of the island. At Plantation I used often to meet with it (particularly towards the evening during rainy weather), hovering over geraniums, and more especially over the flowers of the *Pittosporum* trees. I also have had it brought to me from the Barn, secured from amongst the scrubwood; so that the species

(if truly indigenous) may perhaps have belonged to the now well-nigh extinct scrubwood fauna. Most of my specimens, however, I captured at Plantation, where I also procured two examples of a very handsome albino variety, which is most beautifully suffused throughout with a pale ochreous-golden hue.

Genus 13. Heliothis, Treitschke.

Heliothis insularis.

Anchoscelis insularis, Walk. in Melliss, St. Hel. 182 (1875).

This is one of the handsomest and most abundant of the St.-Helena Noctuas, and one, too, of which I secured the caterpillar commonly enough at Plantation. However, unfortunately I seem to have mislaid the description which I took of the latter, and therefore am unable to add it here, as I should otherwise have done.

Genus 14. Achæa, Hübn.

Achæa melicerta, Drury.

This handsome moth appears to be somewhat scarce in the island, or, at any rate, very local. It occurs principally at low elevations about Jamestown; and the caterpillars are to be met with pretty abundantly in the Botanic Gardens, where they feed upon the leaves of the pomegranate. As, however, we were resident at Plantation (which is some 1800 feet above the sea), I had little opportunity myself of searching for the larvæ; but a chrysalis, which had a most beautiful bloom upon it of a purplish tinge, and which turned to a very perfect imago, was procured for me by Mr. N. Janisch.

Genus 15. Ophiodes, Guén.

Ophiodes tirrhæa, Cram.

This large and extremely handsome moth is not at all uncommon both at low and intermediate altitudes. I did not, however, myself meet with it lower than the Briars; and I had two or three chrysalises sent to me from Woodcot; but most of my imagos I found at Plantation. This species has a curious habit of lying concealed upon the grass in the daytime, where it is hardly distinguishable from the rough, matlike, and often much-burnt-up surface, to which it wonderfully assimilates. *Ophiodes tirrhæa* occurs both in North and South Africa, as likewise in France, Spain, Carniola, Dalmatia, Greece, Asia Minor, Syria, Mauritius, and also in the Canary Islands.

[To be continued.]